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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,389	12/29/2003	Mineo Yamakawa	21058/0206773-US0	8159

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Client 21058
c/o DARBY & DARBY P.C.
P.O. BOX 770
CHURCH STREET STATION
NEW YORK, NY 10008-0770

EXAMINER	
WRIGHT, PATRICIA KATHRYN	

ART UNIT	PAPER NUMBER
1797	

MAIL DATE	DELIVERY MODE
12/19/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Advisory Action Before the Filing of an Appeal Brief	Application No.	Applicant(s)	
	10/748,389	YAMAKAWA ET AL.	
	Examiner	Art Unit	
	P. Kathryn Wright	1797	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 09 December 2008 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): _____.

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: *1,10-22,31-40,56,57,61,62 and 64-66*.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.

12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____

13. ☐ Other: _____.

/Jill Warden/
Supervisory Patent Examiner, Art Unit 1797

Continuation of 11. does NOT place the application in condition for allowance because: of arguments of record. Further, Applicant do not agree with the Examiner that it would have been obvious to modify the coated porous polycarbonate membrane (PCTE) of Bohn with an uncoated porous silicon membrane because the factual basis for the Examiner to arrive at this conclusion stems from hindsight gained from Applicants' own invention.

The Examiner respectfully disagrees. First, the claims are not limited to an uncoated porous silicon membrane. Secondly, Applicant's cite a portion of the rejection in which the Examienr noted that, like Bohn, Applicant teaches the addition of a sensor layer as an alterative to use of a base silicon substrate. Contrary to Applicant's assertion, this was not used to by the Office to provide the reason why it would have been obvious to substitute the membrane of Bohn with the Zimmermann. This was noted by the Examiner to contridict Applicant's previous assertion that the polycarbonate film in Bohn's device is not capable of exhibiting sensing characteristics causing a change in at least one of an optical and electrical characteristic in response to exposure to a targeted fluid or reaction because the polycarbonate in Bohn includes a semiconductor material (i.e., gold) that can be used for electronics and photovoltaic applications. Thus, both the present invention and the Bohn reference teach a membrane with an additional sensor layer. The stated reason for substituting the Bohn polycarbonate membrane with that of Zimmermann is set forth at page 6, 2nd full paragraph (i.e., Zimmermann teaches the equivalance of a porous silicon membrane and a porous polycarbonate membrane). Therefore, the Examiner uses the teaching in Zimmermann, not Applicant's disclosure, to reach the obviousness determination.

Applicant also argues that the silicon nitride of Zimmermann neither contains nor is equivalent to "a porous silicon membrane." Applicant's state that "porous silicon" is a term of art and has been defined as "a form of the chemical element silicon which has an introduced nanoporous holes in its microstructure .... ". First, the porous membrane is specifically defined in Applicant's specification as made of silicon, polydimethyl siloxane, or single crystal porous silicon having a pore size between 50 angstroms and 10 microns (See claims 50 and 60 for example). Thus, the teaching of the prior art is moot since the membrane is defined in the specification. Lastly, Zimmermann does teach a porous silicon nitride membrane having diameter ranging from 0.01 micron to 8 microns, see paragraph [0027], within Applicant's pore diameter range.

Applicant argues that porous silicon and porous silicon nitride are not the same. Applicant merely asserts silicon nitride does necessarily contain elemental silicon. Clearly this is not correct based on chemical formula of silicon nitride (Si_3N_4), which shows elemental silicon Si. Also note that Applicant teaches the porous membrane is made of a porous polydimethyl siloxane (PDMS). Thus, the silicon membrane in claim 1 need not be purely silicon.

Applicant merely asserts the silicon nitride is not capable performing a sensing characteristics causing a change in at least one of an optical and electrical characteristic in response to exposure to a targeted fluid or reaction because silicon nitride is insulating.

The Examiner disagrees with Applicant argument. Applicant is reminded that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The Examiner does not rely on Zimmermann for the teaching of silicon nitride performing a sensing characteristics causing a change in at least one of an optical and electrical characteristic in response to exposure to a targeted fluid or reaction because silicon nitride is insulating, rather the combination of Bohn and Zimmermann as set forth in the rejection. Furthermore unoxidized porous silicon can be insulating (see col. 2, lines 7-14 in US Patent No. 5,936, 257 to Kusunoki et al.) and abstract of US pub. No. 2006/0255425 to Xie.

Thus, for the reasons set forth above, the claims remain rejected over the prior art.